a route of administration selected from the group consisting of intranasal, intratracheal, intramuscular,[ subcutaneous, or] and intravenous routes of administration.

44. (Amended) The vaccine of claim 41 which is [administered by] formulated for subcutaneous injection.

46. (Amended) A [The] vaccine to induce protective immunity against *Pasteurella haemolytica* infection, comprising an isolated *Pasteurella haemolytica* bacterium which comprises a mutation in a [of claim 34 wherein the gene is] leukotoxin C gene, wherein the mutation attenuates the bacterium.

47. (Amended) A [The] vaccine to induce protective immunity against *Pasteurella haemolytica* infection, comprising an isolated *Pasteurella haemolytica* bacterium which comprises a mutation in a [of claim 34 wherein the gene is] leukotoxin A gene, wherein the mutation attenuates the bacterium.

48. (Amended) A [The] vaccine to induce protective immunity against *Pasteurella haemolytica* infection, comprising an isolated *Pasteurella haemolytica* bacterium which comprises a mutation in a [of claim 34 wherein the gene is] leukotoxin B gene, wherein the mutation attenuates the bacterium.

49. (Amended) A [The] vaccine to induce protective immunity against *Pasteurella haemolytica* infection, comprising an isolated *Pasteurella haemolytica* bacterium which comprises a mutation in a [of claim 34 wherein the gene is] leukotoxin D gene, wherein the mutation attenuates the bacterium.

--51. The vaccine of claim 46 which contains an adjuvant.--

--52. The vaccine of claim 46 which is formulated for a route of administration selected from the group consisting of intranasal, intratracheal, intramuscular, and intravenous routes of

administration.--

--53. The vaccine of claim 46 which is formulated for subcutaneous injection.--

--54. The vaccine of claim 47 which contains an adjuvant.--

--55. The vaccine of claim 47 which is formulated for a route of administration selected from the group consisting of intranasal, intratracheal, intramuscular, and intravenous routes of administration.--

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--56. The vaccine of claim 47 which is formulated for subcutaneous injection.--

--57. The vaccine of claim 48 which contains an adjuvant.--

--58. The vaccine of claim 48 which is formulated for a route of administration selected from the group consisting of intranasal, intratracheal, intramuscular, and intravenous routes of administration.--

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--59. The vaccine of claim 48 which is formulated for subcutaneous injection.--

--60. The vaccine of claim 49 which contains an adjuvant.--

--61. The vaccine of claim 49 which is formulated for a route of administration selected from the group consisting of intranasal, intratracheal, intramuscular, and intravenous routes of administration.--

--62. The vaccine of claim 49 which is formulated for subcutaneous injection.--

**Remarks**

Applicants appreciate the Examiner's withdrawal of the rejection of claims 34, 38, 39, and 46-49 under 35 U.S.C. § 102(b) over Gentry *et al.*, the rejection of claims 34, 35, 38, 39, and 41-44 under 35 U.S.C. § 103(a) over Homchampa *et al.*, the judicial obviousness-type double patenting rejection of claims 34, 35, and 38-44, and the statutory double patenting rejection of